

MID-ILLINOIS COMPUTER RESOURCE ORGANIZATION P. O. BOX 766 BLOOMINGTON, ILLINOIS 61701-0766

> MICRO/99 Newsletter Volume 4, Number 4 April, 1986

MICRO/99 is a not-for-profit group dedicated to the sharing of information and public domain software for the Texas Instruments 99/4A home computer. Members have free access to our library of several hundred programs on cassette and diskette. Meetings are held at 7:00 p.m. on the third Thursday of each month at the Illinois Agriculture Association building, 1701 Towanda Avenue, Bloomington. Attendees sign in with the guard at employee entrance number 4 at the rear of the building. Turn left at the sign for the main reception area and go down the stairs on the far side of it. Visitors are especially welcome, and may attend one meeting free of charge.

*** APRIL 17 MEETING ***

At the APRIL 17, 1986 meeting Brian Sydney, a member from Delevan, will present GENFILE, a general purpose filing system that he programmed in extended BASIC. Brian says he has used the program to keep files of paychecks, utility bills, winning lotto numbers, grocery lists and personal checks by category. I have read the documentation and experimented just a bit with the program, and it looks like it could be very useful. It not only maintains the data files, it automatically maintains a master index file which contains information on all the data files, and their backup copies. Brian has said he will make copies available at the meeting.

At our last meeting we had a request for a programming tutorial on the use of arrays. I wrote DICEPLOT, the program on the next page, for that purpose. It illustrates array usage, and also a graphics technique, the use of a subprogram, and some elementary probability theory. I'll discuss it at the meeting.

At all meetings members are encouraged to share any information gleaned from magazines, catalogs, bulletin boards, newsletters from other clubs, personal experience with products, etc. If you have a computer related question or problem, someone at the meeting may have an answer or suggestion for you. And, you are encouraged to bring and show any interesting program you found or wrote recently.

**** SMART REMARKS ****

I thought the last meeting was particularly interesting. Aubrey Johnson's telecommunications demousing local bulletin boards was very well received. I wish I were always so well prepared and well organized as he is. Nice job Aubrey!

Our hardware guru, Herb Beer impressed everyone again too. Others have mounted 32K of RAM in the console, but Herb is the only one I know who mounted it on the back of the receptacle in the module port. It made a compact plug-in unit that was passed around for all to see. This mounting also puts it right under the ventilation holes. Herb also had a module case with the chips from 3 modules mounted in it, selectable with a toggle switch. I understand Herb has been promoted into management at the phone company and would appreciate the donation of a suit or two! Congratulations Herb!

Sid Smart, President

I wrote the program below in response to a request for a tutorial on the use of arrays, and will discuss it at the next meeting. It simulates the roll of two dice and plots growing bargraphs of the values of each die and their sum. It's interesting to watch the graphs develop differently each time, sometimes defying your intuitive sense of what should happen. A trick question: as you roll a die more times, does the spread in the number of times each value comes up tend to increase or decrease?

RDLLS = 900

SCALE = 1

SCALE = 100 RDLLS = 76220



The following program was written by George F. Steffan of the LA 99ers Computer Group. It appeared in the NOV85 issue of the Delaware Valley Users Group newsletter.

MULTI COLUMN PRINTING

For the past several months I have used two programs to list programs in our newsletter 28 characters wide as they appear on the screen and three columns wide so they do not waste space. I received a request for the method and at the same time, I saw a program to list programs on a wide printer. So I adapted my programs to be more. versatile instead of single purpose.

WARYLIST will take a program listing and convert it to whatever line length you desire. There is one bug: if the listed line is an exact multiple of 80 characters in length, the next line will be appended to it. I can think of no simple solution to this and it is an infrequent occurrence, so it remains in the program. This program works on a program LISTed to disk. If your desired length is 80 or less, the disk file will be opened as WARIABLE 80 so that it may be edited with TI Writer. If you wish to list to a wide printer, the file will be opened with the correct length.

MULTIPRINT will take a text file and output it to the printer in multiple columns so that it may be read in normal newspaper fashion, one column after another. You determine the number of columns, but you must inform the program of the output device. This program has no provisions to enable the output text to be edited. Editing must be done before using it.

100 REM VARYLIST _-Geo. F. S teffan, LA 99ers Computer Gr oup, OCT 1985 110 REM THIS PROGRAM WILL CD NVERT ANY PROGRAM LISTED TO DISK INTO A LISTING OF ANY W TOTH YOU DESIRE 120 REM IT MAY BE A 28 COLUM N LISTING SIMULATING A SCREE N LIST 130 REM IF LISTED TO DISK AN O OUTPUT WIDTH IS 80 OR LESS , OUTPUT MAY BE EDITED WITH TI-WRITER 140 REM IF A NUMBERED LINE I S EXACTLY 80, 160, OR 240 8Y TES WHEN LISTED, THIS PROGRA M WILL CONBINE IT WITH THE F

OLLOWING LINE 150 DATA 3, DSK, WDS, RD 160 CALL CLEAR :: PRINT TAB(ii); "VARYLIST" 170 PRINT :: LINPUT "NAME OF INPUT PROGRAM LIST? : IP\$ 180 PRINT :: LINPUT NAME OF OUTPUT FILE? ":OF\$: : IF OFS=IFS THEN PRINT : "IN PUT AND OUTPUT NAMES NUST BE DIFERRENT!" :: 60TO 170 190 PRINT :: INPUT WIDTH OF OUTPUT FILE? :OW :: ODU=0 W :: IF DW)79 THEN 220 200 READ N :: FOR I=1 TO N : : READ DN\$:: IF SEG\$(OF\$,1, LEN(DN\$))=DN\$ THEN ODW,I=B0 210 NEXT 1

Before using MULTIPRINT you should prepare your text file. You should first use VARYLIST or the Formatter of TI-Writer to create a text file of the desired width. Then examine the file and delete any unneeded blank lines. Make sure that the number of lines is an exact multiple of the number of columns you will be using. Insert blank lines to reach this number. You may put these blank lines any place in the text, but they should be placed so as to form pleasing column breaks. If you have used the text formatter to print the file, you should use the Replace String command to change all Line Feeds (Control U, Shift J, Control U), Carriage Returns (Control U, Shift N, Control U) and New Page (Control U, Shift L, Control U) to spaces. Because the text is reformatted after these changes, be sure you are not in Word Wrap Mode when you do this. If you make the first line of your text longer than the line length you plan to tell the printer, it will print across the page as on this article. In this case, you must be sure that the first two lines of succeeding columns are blank. Then save the text file or print it to disk and run MULTIPRINT. The program is designed to accept 300 lines of text, enough for five columns of 60 lines each. If the number is increased too much, the computer will run out of memory.

The programs are listed herewith, each giving an example of itself.

220 OPEN #1: IP\$, DISPLAY , VAR IABLE 80, INPUT :: OPEN #2:OF \$,DISPLAY ,VARIABLE DOW, OUTP IП 230 FOR I=1 TO 9999 :: LIS=* 240 IF EOF(1)THEN 1=1+10000 :: 60TO 250 ELSE LINPUT #1:L 2\$:: IF LEN(L2\$)=0 THEN GOT 0 240 ELSE L1\$=L1\$&L2\$:: IF LEN(L2\$)=80 THEN GOTO 240 250 FOR 0=1 TO LEN(L1\$)STEP OW :: PRINT #2:SEG\$(L1\$.0.0W):: J=J+1 :: NEXT 0 :: NEXT I 260 CLOSE #1 :: CLOSE #2 :: PRINT :I-10000; "NUMBERED LIN ES": J; "OUTPUT LINES" :: END

100 REM MULTIPRINT -Geo. F. Steffan, LA 99ers Computer Group, OCT. 1985 110 REM TI EXTENDED BASIC AN D MEMORY EXPANSION 120 REM WILL PRINT MULTIPLE COLUMNS OF ANY TEXT FILE 130 DIM L\$(300):: CALL CLEAR :: PRINT TAB(10); "MULTIPRIN Т" 140 PRINT :: LINPUT "NAME OF INPUT FILE? ":IF\$:: INPUT "LENGTH OF INPUT LI NES? ":LL 150 PRINT :: LINPUT "NAME OF ":P⊈ :: PRINTER? INPUT "PRINTER LINE LENGTH? ":PL 160 PRINT : "COLUMN SEPARATIO NS WILL BE CALCULATED." :: I NPUT "NUMBER OF COLUMNS? ": £ 170 IF (2*(M+C+1)+C*LL)>PL T

HEN FRINT "WILL NOT FIT" :: GOTO 160 180 OPEN #1:IF\$, INPUT , DISPL AY ,VARIABLE :: FOR I=1 TO S 00 :: IF EOF(1)THEN 210 190 LINPUT #1:L\$(I):: IF ASE (L\$(I)))127 THEN L\$(I)="" :: GOTO 210 ! DISREGARD TAB SE TTINGS 200 NEXT I 210 CLOSE #1 :: S=INT((PL-(C *LL+2*M))/(C-1))+LL :: M=M+1 :: OPEN #2:P\$,DISPLAY ,VARI ABLE PL+1, OUTPUT 220 N=INT((1/1)/C):: FOR I=1 TO N :: FOR J=0 TO C-1 :: F RINT #2:TAB(J*S+M);L\$(I+J*N) ::: IF I=1 AND LEN(L\$(1)))LL THEN J=C 230 NEXT J :: NEXT I :: CLOF E #2 :: END 240 STOP

BREAKDANCING

This program was written by Travis Ringold. We reprinted it from the SEPT/DCT issue of A9CUG CALL NEWSLETTER.

Press a number Key and they change steps. Hold down one Key, four Keep dancing.

10 RANDONIZE 20 GOSUB 250 30 PRINT BREAKDANCING!!!! 40 PRINT "HUMAN OR COMPUTER CONTROL ???" 50 INPUT CONS 55 CALL CLEAR 60 IF CONS="HUNAN" THEN 120 70 BD=INT(RND*5)+153 BO CALL KEY(0, W, E) 90 IF E=1 THEN 120 100 GOSUB 180 110 GOTO 70 120 CALL KEY(0.BD.N) 130 IF N=0 THEN 120 140 IF BD=32 THEN 70 150 BD=BD+102

160 GOSUB 180 170 GOTO 120 180 CALL VCHAR(12,10,BD-(INT (RND*2))+1) 190 CALL VCHAR(12,12,BD-(INT (RND*2))+1) 200 CALL VCHAR(12,16,8D) 210 CALL VCHAR(12,20,BD+(INT (RND*2))+1) 220 CALL VCHAR(12,22,BD+(INT (RND*2))+1) 230 RETURN 240 GOTO 120 250 REM CHARACTERS 260 CALL CHAR(151, 000000000 4B84438") 270 CALL CHAR(152, 000082443

8383854*) 280 CALL CHAR(153, 0010FE383 84482") 290 CALL CHAR(154, 8090FC3A3 9484808*) 300 CALL CHAR(155, 000000000 0847936") 310 CALL CHAR(156, 00107CBA7 C281808*) 320 CALL CHAR(157, 142424783 8*) 330 CALL CHAR(158, 41493E1C1 C2214) 340 CALL CHAR(159, 40281E1D1 41414") 350 RETURN

The following page appeared in the MAR86 issue of the Manners Newsletter.

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FLOPPY DISK IDENTIFICATION

By using the following chart, you can identify the manufacturer of most disks by how the disk jacket is sealed. This can be very helpful in determining the origin of generic disks.

IDENTIFICATION OF 54" DISKS

	© 	
SEAL	COMPANY	COMMENTS
• • •	MAXELL	
COMPLETE SEAL	MEMOREX	ALSO ALBINAR (BEST CO.)
e e	VERBATIM	
• •	NASHUA	6 dots down each side
503 5 03	BASF	
J	ELEPHANT	
	3 M	2 bars down EACH SIDE
	WABASH	6 SETS OF 8 SQS. PER SIDE
	FUJI	
	CONTROL DATA	STORAGE MASTER
	SYNCOM	3 bAAS dOWN EACH SIDE
••	CERTRON	8 dots down EACH SIDE
• •	Bonus	
) 1 11		
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!		
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66		+ FSB ^{III} 2.3.86

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pages of documentation and

Also

\$19.95

examples.

postpaid, or both Nuts Bolts disks for \$37 postpaid. Tigercub Full Disk Collections, just \$12 postpaid! Each of these contains either 5 or 6 of my regular \$3 catalog programs, and the remaining disk space has been filled with some of the best public domain programs of the same category. I am NOT selling public domain programs - my own programs on these disks are greatly discounted from their usual price, and the public domain is a FREE bonus! TIGERCUB'S BEST PROGRAMMING TUTOR PROGRAMMER'S UTILITIES BRAIN GAMES BRAIN TEASERS BRAIN BUSTERS! MANEUVERING GAMES ACTION GAMES REFLEX AND CONCENTRATION TWO-PLAYER GAMES KID'S GAMES MORE GAMES WORD GAMES ELEMENTARY MATH MIDDLE/HIGH SCHOOL MATH VOCABULARY AND READING MUSICAL EDUCATION KALEIDDSCOPES AND DISPLAYS For descriptions of these

send a dollar for sy catalog!

I goofed again! if you tried the Buickloader in Tips #29 with a disk containing more than 28 programs, you may have already noticed that line 148 should go to 168, not 155.

Here's another Tigercub Challenge - can you run this and get these results? >LIST 195 PRINT PI 115 PRINT MAX 128 PRINT PI 135 PRINT MAX >RUN 8 8 3.141592654

* SYNTAX ERROR IN 135

Some of you sharp-eyed newsletter editors may have noticed that this text is being hyphenated to avoid some of those gaping blanks that occur when only a few long words will fit on a right-justified line. The only way that I have found to accomplish this is to set the TI-Writer right tab for the actual column width to be printed and then. whenever a word is hyphenated. backspace and replace the blanks on that line with carets, adding enough extra carets to justify the line like this -

whenever^a^word^^is^^hyphen-

It helps to go into fixed mode with CTRL \$ when you are inserting extra carets. When using this method, it is also necessary to set the paragraph indentation with IN \$ on the command line; if indentations are desired, they can be filled with caret signs, like this: ^When using this method,

1 as told that my old 3D Sorite Routine made it to the Golden Quickies section of CompuServe, so here is an updated version. I have found that sprites can be controlled much more easily (although not moved as rapidly) with CALL LOCATE, rather than turning them loose with CALL MOTION and then trying to catch up with then! 155 CALL CLEAR 11 CALL SCREE N(5):: FOR SET=2 TO 8 :: CAL L COLOR(SET.8,5):: NEXT SET II DISPLAY AT(3,12):"3-D SPR ITE DEMO* 118 DISPLAY AT(22,1): "BY TI5 ERCUB" II CALL CHAR(41, "FFB) 8181818181FF81818181818181FF FF010101010101FF010101010101 \$1FF") 121 CALL CHAR(36, RPT\$ ("F", 64)):: CALL MAGNIFY(4):: FOR X

=2 TO 22 STEP 2 :: CALL SPRI TE(#X, 36, X/2+1-(X)7)-(X)13). 32+X=6.48+X=6):: NEXT X 138 S=1 :: CALL SPRITE(#S,48 .16.46.7):: FOR C=6 TO 42 ST EP 2 :: CALL LOCATE (#S, 46, C) 1: NEXT C :: FC=44 :: FR=46 1: Y=# 141 FOR C=FC TO FC+44 STEP 2 :: CALL LOCATE(#S.FR.C):: N EXT C :: FC=FC+44 :: CALL SP RITE(#S+2.48.16,FR,FC):: CAL L DELSPRITE(#S):: TC=FC-32 15# FOR C=FC TO TC STEP -2 : : CALL LOCATE(#S+2.FR.C):: N EXT C :: TR=FR+34 :: FOR R=F R TO TR STEP 2 :: CALL LOCAT E(#S+2,R,TC):: NEXT R 16# CALL SPRITE(#5.4#.16.TR. TC):: CALL DELSPRITE(#\$+2):: FR=TR :: TR=FR-72 :: FOR R= FR TO TR STEP -2 :: CALL LOC ATE (#S, R, TC) :: NEXT R 171 CALL SPRITE (#S+2,48,16,T R.TC):: CALL DELSPRITE(#S):: FR=TR :: TR=FR+58 :: FOR R= FR TO TR STEP 2 :: CALL LOCA TE(#S+2.R.TC):: NEXT R 188 Y=Y+1 :: IF Y=11 THEN CA LL DELSPRITE(#S+2):: 60TO 13 I ELSE S=S+2 :: FC=TC :: FR= TR :: 60T0 145

Ian Swales in Belgium can write some of the most intricate routines, and pull them into the tightest knot. I had searched everywhere for a sorting routine for 2-dimensional arrays, and invented some ridiculous ones, before Ian sent me this jewel.

188 IDENO of two-dimensional sorting routine 118 :Set up array to be sort eđ 129 CALL CLEAR :: DIN AS(28. 4):: RANDOMIZE :: DEF X\$=CHR \$ (26#RND+65) 138 FOR J=1 TD 28 :: A\$(J.1) =X\$&X\$&X\$:: A\$ (J.2) =STR\$ (IN T(1#S=RND+1):: A\$(J,3)=X\$&ST R\$(INT(11#RND)):: A\$(3,4)=IN T(1##RND))&X\$:: NEXT J 141 INPUT "SORT BY?(1-4)":K 159 J=28 !2-dimensional arra y sorting routine by Ian Swa les

169 DIM Q(28):: FOR X=1 TD 2 B :: Q(X)=X :: NEXT X 178 M=8 188 FOR X=1 TO J-1 :1 IF AS(Q(X),K)<=AS(Q(X+1),K)THEN 21 B 198 M=-1 289 T=Q(X):: Q(X)=Q(X+1):: Q (X+1)=T 218 NEXT X 228 IF M THEN 178 238 FOR X=1 TO 28 :: FOR L=1 TD 4 :: PRINT AS(Q(X),L);" ";:: NEXT L :: PRINT :: NEXT X :: GOTO 148

Did you ever need a routine that would accept either a string or a numeric value? Try this -

188 N=8 :: DN ERROR 118 :: A CCEPT MS :: N=VAL(MS):1 60TO 128 118 DN ERROR STOP :: RETURN 128 128 ON (N=8)+2 60TO 138,149 138 PRINT MS :: 60TO 188 148 PRINT N :: 60TO 188

A useful tip from Stephen Shaw in England - if you have a long program which wil run only in Basic, and which will load from disk with CALL FILES(1) but runs out of memory when you try to run it; and if you have the MiniHemory module -Insert MiniMemory module, select Basic, enter CALL FILES(1), Enter NEW, enter OLD DSK1.(filename). When loaded, enter SAVE EXPMEM2. When SAVEd, enter CALL LDAD(-31888,63,255), enter NEW, enter OLD EXPMEM2, and enter RUN. That is still a lot faster than loading a long program from tape!

Another reason for never using the default mode of so-called UPDATE when opening a file (without specifyying INPUT or OUTPUT) is that you will get an 1/0 EKKOR \$1 if the file is write-protected.

Has anyone found a way to go from Extended Basic to Basic without losing the program in memory, or at least fouling it up?

CALL LOAD(-32116,4) has been published in many newsletters as a way to do this, but has anyone actually made it work?

If you are printing out of II-Writer Editor, finish your letter with CTRL U, SHIFT L, CTRL U and when it is printed the paper will automatically feed to the top of the next sheet.

To make a note to yourself while programming, just type 1! and whatever you want to make note of, then LIST "PID":1, and then type 1 and enter to delete the line.

TI-Writer puts an extra space after every period that is followed by a space. If you don't want this extra space after abbreviations such as "Mr." or St.", use a caret sign ^ instead of a space after the period, Mr.^Jones. But TI-Writer puts only one space after ? or ! so if you want two, put a caret after the symbol !^

One of the very best tips for this month comes from Paul A. Meadows, in the September 85 newsletter of T.I.N.S. (Nova Scotia, Canada) -How to print up to 132

nuw to print up to 132 characters in a line (condensed print, of course) out of TI-Writer! Just prepare your file as usual but in line \$\$\$1 put formatter commands such as .LN 1\$;RN 132; IN +5;FI;AD. The Fill and Adjust are necessary, the Indent is up to you, as are the left and right margins - but notice that right margin set way ** over at 132?

Now, instead of saving the

file with SF, type PF and then C DSK1.(filename) to print to the disk. This not only strips out the control C characters, it also erases the TI-Writer tab line that was applied to the last line of the file.

So now, with your printer opened and initialized for condensed print, go into the TI-Writer formatter mode and print your file!

I have made the following changes to my working copy of the Tigercub Menuloader. This sets up av Gemini printer to skip over the perforations and print full page width in elite print with a wide left margin for ring-binder punching. Other printers may need changes in these codes. 621 DISPLAY AT(12,1) ERASE AL L: PRINTER? PID" :: ACCEPT A T(12.11)SIZE(-18):P\$:: 605U B 895 11 PP=3 841 DISPLAY AT(24,1): PRINTE R NAME? PID" :: ACCEPT AT(24 ,15)SIZE(-14):PP\$:: GOSUB B 95 :: PRINT #2:SE6\$ (D\$.1.4)& * - Diskname= *4N\$ 895 DPEN #3:P\$, VARIABLE 132 11 PRINT #3:CHR\$(27);*B*;CHR \$(2):CHR\$(27):*M*:CHR\$(11):C HR\$ (27); "N"; CHR\$ (6):: RETURN

I always keep a backup of everything, on the flipped side of another disk, and I often want to verify that the backup has everything that is on the master, and vice versa. 111 DISPLAY AT(3,6) ERASE ALL TIGERCUB DOUBLECAT": 1" To compare the contents of ": 1 "a disk with a backup." !by Jia Peterson 118 DISPLAY AT(12,1): "INSERT MASTER DISK": : "PRESS ENTER 12# CALL KEY(#,K,S):: IF S=# THEN 121 131 DATA DF. DV. IF. IV. P 141 RESTORE :: FOR I=1 TO 5

1: READ T\$(I):: NEXT I

15# DIM F\$(127):: OPEN #1:"D

SK1.*, INPUT .RELATIVE, INTERN AL :: INPUT #1:A\$, J, J, K :: F \$(#)=A\$&* "&STR\$(K) 168 X=X+1 :: INPUT #1:F\$(X). I.J.K :: 1F F\$(X)=** THEN 17 # :: F\$(X)=F\$(X)&* *&T\$(ABS(I)):: 60TO 169 178 X=X-1 :: CLOSE #1 :: DIS PLAY AT(12.1) ERASE ALL: "REMO VE MASTER DISK": : "INSERT BA CKUP DISK": : "PRESS ENTER" 188 CALL KEY (8.K.S) :: IF S=8 THEN 18 198 OPEN #1: DSK1. . INPUT ,R ELATIVE, INTERNAL :: INPUT #1 :A\$,J,J,K :: DISPLAY AT(1,1) ERASE ALL: F& (B); :: DISPLAY A T(1,15):A\$&" "&STR\$(K): 298 Y=Y+1 1: R=R+1 :: 605UB 298 :: INPUT #1:A\$, I.J.K :: IF AS="" THEN 268 :: KS=AS&" *&T\$(ABS(I)) 218 IF KS=FS(Y)THEN DISPLAY AT(R+1.1):F\$(Y)::: DISPLAY A T(R+1.15):K\$::: 60T0 25# 228 IF K\$(F\$(Y)THEN DISPLAY AT(R+1.15);K\$::: Y=Y-1 :: 60 TO 251 238 DISPLAY AT(R+1,1);F\$(Y); :: R=R+1 :: 60SUB 29# :: Y=Y +1 248 IF K\$=F\$(Y) THEN 218 ELSE IF K\$(F\$(Y) THEN 221 ELSE IF YCX THEN 238 ELSE DISPLAY A T(R, 15):K\$; 251 6010 211 268 IF Y>X THEN 288 278 R=R+1 1: 605UB 298 :: FO R J=Y TO X :: DISPLAY AT(R.1):F\$(J):: R=R+1 :: 6DSUB 295 2: NEXT J 288 DISPLAY AT(24,1):* ₽ RESS ANY KEY" :: CALL KEY (... K,S):: IF S=8 THEN 288 ELSE CLOSE #1 :: END 298 IF R<23 THEN RETURN 388 DISPLAY AT(24,1): "PRESS ANY KEY" :: DISPLAY AT(24,1) :" " :: CALL KEY(8,K,S):: IF S=S THEN 388 318 CALL CLEAR :: R=1 :: RET URN And that is just about MEMORY FULL!

Jim Peterson



EDMONTON 99'ERS USER SOCIETY P.O. BOX 11983, EDMONTON ALBERTA, CANADA T5J-3L1

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